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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD 7TH FLOOR
LOS ANGELES, CA 90025

EXAMINER
LEE, RICHARD J

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BEFORE THE BOARD OF PATENT APPEALS

AND INTERFERENCES

Paper No. 26

Application Number: 08/881,965

Filing Date: May 16, 1997

Appellant(s): Kuzma

Libby H. Hope

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 30, 2002.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that the following groups of claims stand or fall together: claims 22-23; 24-33; 35-38; 39, 41; 42-43; 44-45; and 46-49 and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

A substantially correct copy of the appealed claims appears on pages i to x of the Appendix A to the appellant's brief. The minor errors are as follows: Since claim 1 has been allowed and is not the subject of this appeal, claim 1 as shown at pages i to ii of Appendix A should be deleted. In addition, Appendix B as shown at pages xi to xxvi need not be provided and is not necessary since such underlining and bracketing to the claims as shown in Appendix B should only be made in general during prosecution of the application before a Final Office action. Also, other errors in Appendix B include the presence of allowed claim 1 and canceled claims 2-20, all such claims not being the subject of appeal. Therefore, for purposes of the appeal only Appendix A with appealed claims 22-33, 35-39, and 41-49 as presented will be considered.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,010,401	MURAKAMI et al	4-1991
4,320,500	BARBERIS et al	3-1982
5,117,350	PARRISH et al	5-1992
5,497,153	JEONG	3-1996
5,343,465	KHALIL	8-1994

(10) Grounds of Rejection

1. The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 22-28, 31, 32, 35, 38, 39, and 41-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al (5,010,401) in view of Barberis et al (4,320,500) and Parrish et al (5,117,35).

Murakami et al discloses a picture coding and decoding apparatus as shown in Figures 24 and 26, and substantially the same apparatus method of transmitting real time data as claimed in claims 22, 23-28, 31, 32, 35, 38, 39, and 41-47, comprising substantially the same encoder for encoding the real time video data by determining the differences between the real time data and a transmit reference to produce differential data (i.e., 1-4, 13 of Figure 1 and 7, 13 of Figure 24); storing the differential data in a plurality of output buffers (i.e., 81, 82 of Figure 24), each output buffer created based upon one or more characteristics of a data

communications channel (see column 17, lines 31-56 and column 19, lines 27-68); selecting one of the plurality of output buffers as a current transmit buffer (see column 17, lines 31-56 and column 19, lines 27-68); compressing the differential data prior to storing the differential data in one of the plurality of output buffers (see 7 of Figure 24); a transmit reference buffer (see 13 of Figure 24) for storing a current transmit reference; compression circuitry (i.e., 5-7 of Figure 1 and 7 of Figure 24) coupled to the encoder and to the transmit reference buffer for producing compressed data based upon the current transmit reference and the encoded real time information; wherein the compressed data comprises a differential between the encoded real time information and the current transmit reference (see Figures 1 and 24); wherein the one or more characteristics of the data communications channel include transmission delay on the data communications channel (see column 16, lines 18-60, column 17, lines 31-56 and column 19, lines 27-68); the compressed data from the selected output buffer when used in conjunction with the previously stored transmit reference approximating a next frame expected by a receiving apparatus (see Figure 1, 24, and 26); and repeating the encoding, storing, selecting, and transmitting using the data from the current transmit buffer as the transmit reference (i.e., continuous processing of the video data within system of Figure 24).

Murakami et al does not particularly disclose, though, the followings:

(a) a plurality of dynamically created output buffers coupled to the compression circuitry for storing the compressed data, each dynamically created output buffer being created and configured based upon one or more characteristics of a communication channel to be used for transmitting the encoded real time information over a network; a network interface coupled to the plurality of output buffers, the network interface for interfacing with the network, the network interface determining the selected output buffer and transmitting real time data over the network from the selected output buffer, wherein the selected output

buffer contains compressed data which, when used in conjunction with the current transmit reference, accommodates the one or more characteristics of the data communications channel better than compressed data from at least another buffer/all other buffers of the plurality of output buffers; the network interface for selecting a selected output buffer of the plurality of output buffers by determining with reference to one or more predetermined coding strategies, whether compressed data from the selected output buffer is appropriate for transmission to a receiving mode as claimed in claims 22, 24-26, 35, 39, 41, 42, 44, and 46; and

(b) selecting one of the plurality of output buffers as a current transmit buffer by determining whether the differential data in a particular output buffer accommodates one or more characteristics of the network better than differential data in at least one other output buffer of the plurality of output buffers; the selected output buffer contains compressed data which accommodates one or more characteristics of the network better than compressed data in all other buffers of the plurality of output buffers; and transmitting differential data from the current transmit buffer over the network as claimed in claims 23 and 44.

Regarding (a) and (b), the particular selection of an output buffer based on characteristics of a network to provided a selected output buffer which accommodates one or more characteristics including transmission delays of the network better than at least one other or all other buffers to be transmitted onto a data communications channel of a network, in general, is old and well recognized in the art, as exemplified by Barberis et al (see column 4, lines 20-63). It is considered obvious that such buffer selections based on network characteristics of Barberis et al may be provided in place of the output buffer configuration of Murakami et al so that network requirements are met. Further, the particular dynamically configuration of memories is old and well recognized in the art, as exemplified by Parrish et al (see column 4, line 51 to

column 5, line 10, column 19, lines 33-49). As such, it is considered obvious that the memory buffers as provided in the modified Murakami et al may be dynamically configured as the specific type of memory allocation. Therefore, it would have been obvious to one of ordinary skill in the art, having the Murakami et al, Barberis et al, and Parrish et al references in front of him/her and the general knowledge of dynamically created output buffers and selected buffer output devices for network channel accommodations, would have had no difficulty in providing the particular selection of a dynamically created output buffer based on characteristics of a network to provide a selected output buffer which accommodates one or more characteristics including transmission delays of the network better than at least one other or all other buffers to be transmitted onto a data communications channel of a network as taught in the combination of Barberis et al and Parrish et al for the buffer control as shown in Figure 24 of Murakami et al for the same well known output buffer control for network interface operations purposes as claimed.

3. Claims 33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Murakami et al, Barberis et al, and Parrish et al as applied to claims 22-28, 31, 32, 35, 38, 39, and 41-49 in the above paragraph (2), and further in view of Jeong (5,497,153).

The combination of Murakami et al, Barberis et al, and Parrish et al discloses substantially the same apparatus and method as above, but does not particularly disclose the encoded real-time information includes audio information and wherein the one or more predetermined coding strategies include minimizing artifacts as claimed in claims 33 and 36. However, Jeong discloses a system for variable length coding and variable length decoding digital data for compression transmission data as shown in Figure 5, and teaches the conventional audio real time encodings (see column 1, lines 20-25) as well as coding strategies minimizing artifacts before transmission (i.e., as provided by 52, 54 of Figure 5, and see column 5, line 16 to column 6,

line 36). Therefore, it would have been obvious to one of ordinary skill in the art, having the Murakami et al, Barberis et al, Parrish et al, and Jeong references in front of him/her and the general knowledge of video/audio encoders with coding strategies, would have had no difficulty in providing the audio encoder with artifact minimization effects as shown in Figure 5 of Jeong for the video compression circuit as shown in Figure 24 of Murakami et al for the same well known purposes as claimed.

4. Claims 29, 30, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Murakami et al, Barberis et al, and Parrish et al as applied to claims 22-28, 31, 32, 35, 38, 39, and 41-49 in the above paragraph (2), and further in view of Khalil (5,343,465).

The combination of Murakami et al, Barberis et al, and Parrish et al discloses substantially the same apparatus and method as above, but does not particularly disclose wherein the one or more characteristics of the data communications channel include bandwidth availability and burstiness of traffic on the data communications channel, and allocating available bandwidth to achieve a higher frame rate as claimed in claims 29, 30, and 37. However, Khalil discloses a method and system for real time burstiness analysis of network traffic as shown in Figure 1 and 8, and teaches the conventional measuring and analysis of the burstiness of network traffic and allocation of available bandwidth to support specific services (see column 2, lines 27-66). Therefore, it would have been obvious to one of ordinary skill in the art, having the Murakami et al, Barberis et al, Parrish et al, and Khalil references in front of him/her and the general knowledge of network traffic conditions with bandwidth allocations, would have had no difficulty in providing the burstiness analysis of network traffic with coding strategies including the allocation of available bandwidth for the system as shown in Figure 24 of Murakami et al for the same well known purposes as claimed.

(11) Response to Argument

Regarding the appellant's arguments at pages 6-12 of the brief filed August 30, 2002 concerning in general that "... Specifically, at least one limitation that is missing from the primary reference, Murakami et al ... is "dynamically created buffers that are created and configured based upon one or more characteristics of a communication channel to be used for transmitting the encoded real time information over a network ... since Barberis does not teach or suggest this element, the Examiner has failed to otherwise show that such an element is old and well recognized in the art ... Barberis discloses a system for routing data from a transmitting buffer to a terminal node according to the delay that is computed for various paths to the terminal node ... In Barberis, each of the buffers B1-Bn is some predefined number ... Kuzma creates dynamically created buffers. This is in contrast to Barberis, where the buffers B1-Bn are all predefined ... Thirdly, in Kuzma, buffers are dynamically created according to one or more characteristics of a communications channel to be used for transmitting the data ... In summary, Barberis does not teach, as suggested by the Examiner, dynamically created buffers that are created and configured based upon one or more characteristics of a communication channel to be used for transmitting the data ... In Barberis, since there are multiple paths (i.e., communication channel) for transmitting data, each path possibly having different calculated delays, there is no need in Barberis for creating buffers that are dependent upon the characteristics of a single communications channel ... Parish does not teach, suggest, or provide the motivation for modifying its disclosure of configurable memories to create dynamically configurable output buffers for storing encoded real-time data, where buffers are dynamically created and configured based upon characteristics of a communications channel ...", the Examiner wants to point out firstly that: One cannot show non-obviousness by attacking references individually where, as here the rejections are based on

combination of references. In re Keller, 208 USPQ 871 (CCPA 1981). Though Barberis et al does not teach that the buffers B1-Bn are dynamically created output buffers, Parish nevertheless shows such general use of dynamically created buffers that may obviously be provided for the buffering system of Barberis et al and Murakami et al thereby providing substantially the same if not the same plurality of dynamically created output buffers coupled to the compression circuitry for storing the compressed data, each dynamically created output buffer being created and configured based upon one or more characteristics of a communication channel to be used for transmitting the encoded real time information over a network, the network interface determining the selected output buffer, wherein the selected output buffer accommodates the one or more characteristics of the data communications channel better than compressed data from at least another buffer/all other buffers of the plurality of output buffers (i.e., one of buffers B1-Bn of Barberis et al is selected to minimize the total delay, thereby providing the selected output buffer which accommodates the one or more characteristics of the data channel better than compressed data as provided by Murakami et al from at least another buffer/all other buffers of the plurality of buffers, see column 4, lines 20-63 and Figure 1B of Barberis et al) as claimed. It is considered obvious that such buffer selections based on network characteristics as taught by Barberis et al may certainly be provided in place of the output buffer configuration of Murakami et al so that the network requirements are met. And in view of the dynamically configuration of memories as taught by Parrish et al (see column 4, line 51 to column 5, line 10, column 19, lines 33-49), it is submitted again that it is considered obvious to provide dynamic configuration of the modified memory buffers within Murakami et al. Further, though the data of Barberis et al may be transmitted along a selected path and each of the buffers B1-Bn of Barberis et al is some predefined number, it is submitted that the selected path is nevertheless a selected output buffer such as one of B1-Bn (see

column 4, lines 20-63 of Barberis et al), thereby providing substantially the same if not the same data that is being transmitted from a selected output buffer as claimed. For the above reasons, it is further submitted that the claimed invention is rendered obvious in view of the combination of Murakami et al, Barberis et al, and Parrish et al.

Regarding the appellant's arguments at pages 12-14 of the brief filed August 30, 2002 concerning in general the rejection of claims 29, 30, 33, 36, and 37, the Examiner wants to point out that such arguments have been addressed in the above.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

RICHARD LEE
PRIMARY EXAMINER

Richard Lee/rl

September 10,2002

CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Conferees

Chris Kelley
Young Lee

YOUNG LEE
PRIMARY EXAMINER

Libby H. Hope
12400 Wilshire Boulevard
Seventh Floor
Los Angeles, CA 90025-1030